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Kinast et al.

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(54) **NON-INVASIVE BLOOD PRESSURE MEASUREMENT SYSTEM**

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(21) Appl. No.: **13/189,396**

Pannier et al. ("Methods and Devices for Measuring Arterial Compliance in Humans" American Journal of Hypertension; 2002; vol. 15, No. 8, pp. 743-753).*

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CPC **A61B 5/02125** (2013.01); **A61B 5/02416** (2013.01); **A61B 5/0452** (2013.01); **A61B 7/00** (2013.01); **A61B 2562/04** (2013.01); **A61B 2562/06** (2013.01)

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CPC A61B 5/02125; A61B 5/0452; A61B 5/02416; A61B 2562/04; A61B 2562/06; A61B 7/00
See application file for complete search history.

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(57) **ABSTRACT**

A system for non-invasively determining an indication of an individual's blood pressure is described. In certain embodiments, the system calculates pulse wave transit time using two acoustic sensors. The system can include a first acoustic sensor configured to monitor heart sounds of the patient corresponding to ventricular systole and diastole and a second acoustic sensor configured to monitor arterial pulse sounds at an arterial location remote from the heart. The system can advantageously calculate a arterial pulse wave transit time (PWTT) that does not include the pre-ejection period time delay. In certain embodiments, the system further includes a processor that calculates the arterial PWTT obtained from the acoustic sensors. The system can use this arterial PWTT to determine whether to trigger an occlusive cuff measurement.

2 Claims, 25 Drawing Sheets

